

[0053] The invention and all of the functional operations described in this specification can be implemented in digital electronic circuitry, or in computer hardware, firmware, software, or in combinations of them. The invention can be implemented as a computer program product, i.e., a computer program tangibly embodied in an information carrier, e.g., in a machine-readable storage device or in a propagated signal, for execution by, or to control the operation of, data processing apparatus, e.g., a programmable processor, a computer, or multiple computers. A computer program can be written in any form of programming language, including compiled or interpreted languages, and it can be deployed in any form, including as a stand-alone program or as a module, component, subroutine, or other unit suitable for use in a computing environment. A computer program can be deployed to be executed on one computer or on multiple computers at one site or distributed across multiple sites and interconnected by a communication network.

[0054] Method steps of the invention can be performed by one or more programmable processors executing a computer program to perform functions of the invention by operating on input data and generating output. Method steps can also be performed by, and apparatus of the invention can be implemented as, special purpose logic circuitry, e.g., an FPGA (field programmable gate array) or an ASIC (application-specific integrated circuit).

[0055] Processors suitable for the execution of a computer program include, by way of example, both general and special purpose microprocessors, and any one or more processors of any kind of digital computer. Generally, a processor will receive instructions and data from a read-only memory or a random access memory or both. The essential elements of a computer are a processor for executing instructions and one or more memory devices for storing instructions and data. A variety of devices possess both a processor for executing instructions and one or more memory devices for storing instructions and data, e.g., desktop and notebook computers, portable media players, personal digital assistants (PDA), and cellular phones. Generally, a computer will also include, or be operatively coupled to receive data from or transfer data to, or both, one or more mass storage devices for storing data, e.g., magnetic, magneto-optical disks, or optical disks. Information carriers suitable for embodying computer program instructions and data include all forms of non-volatile memory, including by way of example semiconductor memory devices, e.g., EPROM, EEPROM, and flash memory devices; magnetic disks, e.g., internal hard disks or removable disks; magneto-optical disks; and CD-ROM and DVD-ROM disks. The processor and the memory can be supplemented by, or incorporated in special purpose logic circuitry.

[0056] To provide for interaction with a user, the invention can be implemented on a computer having a display device, e.g., a CRT (cathode ray tube) or LCD (liquid crystal display) monitor, for displaying information to the user and a keyboard and a pointing device, e.g., a mouse or a trackball, by which the user can provide input to the computer. Other kinds of devices can be used to provide for interaction with a user as well; for example, feedback provided to the user can be any form of sensory feedback, e.g., visual feedback, auditory feedback, or tactile feedback; and input from the user can be received in any form, including acoustic, speech, or tactile input.

[0057] The invention can be implemented in a computing system that includes a back-end component, e.g., as a data server, or that includes a middleware component, e.g., an application server, or that includes a front-end component, e.g., a client computer having a graphical user interface or a Web browser through which a user can interact with an implementation of the invention, or any combination of such back-end, middleware, or front-end components. The components of the system can be interconnected by any form or medium of digital data communication, e.g., a communication network. Examples of communication networks include a local area network ("LAN") and a wide area network ("WAN"), e.g., the Internet.

[0058] The computing system can include clients and servers. A client and server are generally remote from each other and typically interact through a communication network. The relationship of client and server arises by virtue of computer programs running on the respective computers and having a client-server relationship to each other.

[0059] The invention has been described in terms of particular embodiments. Other embodiments are within the scope of the following claims. For example, the steps of the invention can be performed in a different order and still achieve desirable results.

What is claimed is:

1. A computer program product, tangibly embodied in an information carrier, comprising instructions operable to cause a computer to:

obtain a plurality of manifest files, each manifest file containing information corresponding to one or more components; and

display information contained in each manifest file in a dual-list format, wherein: a first list displays a component name for each component listed in each manifest file, including components installed and not installed on the computer; a second list displays the component name for each component of the first list that is installed on the computer; and the component names in the first list are displayed aligned with the component names in the second list such that the component name of each installed component that appears in the first list is displayed aligned with the component name of the same installed component on the second list.

2. The computer program product of claim 1, wherein each manifest file is associated with an installed product on the computer.

3. The computer program product of claim 2, further comprising instructions to identify the installed products on the computer from a single file located on the user computer.

4. The computer program product of claim 3, wherein the single file is a settings file.

5. The computer program product of claim 1, further comprising instructions to identify each installed component on the computer from a keyfile associated with each installed component.

6. The computer program product of claim 1, wherein the first list and the second list are displayed in a hierarchical structure in which component names identified with a first installed product are displayed together and that component names identified with a second installed product are displayed together, but the component names associated with both the first installed product and the second installed product are displayed together, separate from the component